UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/637,604	08/08/2003	Alexander Gordon Barr	279.398US2	3716

21186 7590 06/01/2005

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402-0938

EXAMINER	
KOCH, GEORGE R	

ART UNIT	PAPER NUMBER
1734	

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/637,604	BARR ET AL.	
	Examiner	Art Unit	
	George R. Koch III	1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) *8 and 19* is/are withdrawn from consideration.

5)☒ Claim(s) *21-29* is/are allowed.

6)☒ Claim(s) *1-4,6,7,10-16 and 18-20* is/are rejected.

7)☒ Claim(s) *4,5,9 and 17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to because of the following informalities: Claim 4 recites in part, in line 2, "each capacitor is *place* onto the capacitor stack". It appears that the word place should have been spelled --placed--. Appropriate correction is required.

2. Applicant is advised that should claim 5 be found allowable, claim 21 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). Claim 21 is claim 5, rewritten in independent format (see remarks filed 3/8/2005, page 12).

3. Applicant is advised that should claim 9 be found allowable, claim 24 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). Claim 24 is claim 9, rewritten in independent format (see remarks filed 3/8/2005, page 12).

4. Applicant is advised that should claim 17 be found allowable, claim 27 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). Claim 27 is claim 17, rewritten in independent format (see remarks filed 3/8/2005, page 12).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by IBM Technical Disclosure Bulletin NN81024261.

NN81024261 discloses an apparatus capable of manufacturing a capacitor stack for a flat capacitor (it manufactures stacks of electronic components including ceramic plates and ferrite components), the apparatus comprising a fixture (plunger 40 and bosses 40a) capable of holding a plurality of capacitor layers defining a capacitor stack as each of the plurality of layers is placed onto the capacitor stack, and means capable of continually applying a compression force (spring 36) on the capacitor stack until each of the plurality of capacitor layers have been placed onto the capacitor stack.

NN81024261 is structurally identical to the limitations as worded in the claims and thus is capable of meeting the intended usage.

It should be noted that NN81024261 is in the same technical field as the invention - the manufacture of electrical components. Beyond that, NN81024261 has many similarities, such as that the devices are layered, and manufactured with stacking and compression.

As to claim 2, NN81024261 also discloses a structure equivalent to the base pad (plunger 40 and bosses 40a) that is capable of holding the capacitor stack and is continually urged upwards (via the means for continually applying a compression force).

As to claim 3, NN81024261 discloses a structure equivalent to the base pad (plunger 40 and bosses 40a) capable of continually urging the capacitor stack upward and an upper member (retaining arms 26 and 28) capable of contacting the top surface of the capacitor stack.

As to claim 4, NN81024261 discloses an alignment system (positioning tongue 24) that is an alignment system capable of aligning each of the plurality of capacitor layers as each capacitor layer is placed onto the capacitor stack.

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Breyen (US Patent 6,042,624).

Breyen discloses an apparatus for forming a capacitor stack for a flat capacitor, comprising a fixture (see Figures 5a, 5b, and 5c) for holding a plurality of capacitor layers defining a capacitor stack as each of the plurality of capacitor layers is placed

onto the capacitor stack, and means capable of continually applying a compression force (springs 213a and 213c) on the capacitor stack until each of the plurality of capacitor layers have been placed onto the capacitor stack.

8. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Hahne (WO98/51602).

Hahne discloses an apparatus capable of forming a capacitor stack comprising a fixture (Figure 1, items 2, 3, 4 and 8) capable of holding a plurality of capacitor layers defining a capacitor stack until each of the plurality of capacitor layers have been placed on the stack, and means for continually applying a compression force (items 6, 7 and 9) on the capacitor stack until each of the plurality of capaciotro layers have been placed on the stack.

As to claim 2, Hahne discloses that the fixture includes a base pad (item 8) which is capable of being continually urged upwards.

As to claim 3, in addition to the base pad (item 8), Hahne discloses an upper member capable of contacting the top surface of a capacitor stack (flaps 13 and 14).

As to claim 4, the side members of the fixture (Figure 1, items 2 and 3) are capable of functioning as an alignment system as claimed.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 6, 7, 10-16, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over IBM Technical Disclosure Bulletin NN81024261 as applied to claims 1-4 above, and further in view of Farahmandi (US 6,233,135).

NN81024261 discloses the fixture (items 40 and 40a) and the force member (spring 36). Hahne discloses that the fixture includes a base pad (items 40 and 40a) which can be forced upwards and that the positioning tongue of the fixture (item 24) are capable of functioning as an alignment system as claimed. NN81024261 also discloses an upper member capable of contacting the top surface of a capacitor stack (retaining arms 26 and 28) and these members are capable of moving as claimed

The references do not suggest a placement member for placing the capacitor layers into the fixture.

Farahmandi discloses a placement member (see Figure 8c, items 100, 101, and 102) for placing the capacitor layers into the fixture. The X-Y controller (i.e., a robotic controller) ensures proper positioning of the layers on the cloth, and then places the layers into the stack. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such a placement member in order to ensure proper layer positioning.

As to claim 7, Farahmandi discloses that the placement member includes an X-Y controller (i.e., a robotic controller).

As to claim 10, NN81024261 discloses the use of springs for forcing the capacitor layers together (item 36)

As to claim 11, see the rejection of claim 6 above.

As to claim 12, NN81024261 as incorporated above discloses that the force member (spring 36) can be used to force the base pad upwards.

As to claim 13, NN81024261 discloses the use of springs for forcing the layers together (item 36).

As to claims 14 and 15, in addition to the base pad (item 40 and 40a), NN81024261 discloses an upper member capable of contacting the top surface of a capacitor stack (retaining arms 26 and 28) which are capable of moving.

As to claim 16, NN81024261 discloses a positioning tongue for the fixture (item 24) that is capable of functioning as an alignment system as claimed.

As to claim 18, Farahmandi as incorporated discloses that the placement member includes an X-Y controller (i.e., a robotic controller).

As to claim 20, the apparatus of NN81024261 and Farahmandi is capable of continually applying compression force as claimed.

12. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breyen (US Patent 6,042,624) as applied to claim 1 above and further in view of Hahne (WO98/51602).

Breyen discloses all of the elements of claim 1. Breyen also discloses a base pad (item 207), but does not discloses that the base pad is urged upwards.

Hahne discloses a stacking structure which keeps stacked elements in position by utilizing a fixture which includes a base pad (item 8) which is capable of being continually urged upwards. One in the art would immediately appreciate that such elements ensure proper orientation and stacking of the layers. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used such base pad elements in order to ensure proper orientation and stacking of the layers.

As to claim 3, in addition to the base pad (item 8), Hahne discloses an upper member capable of contacting the top surface of a capacitor stack (flaps 13 and 14) which are capable of moving.

As to claim 4, Hahne discloses side members of the fixture (Figure 1, items 2 and 3) that are capable of functioning as an alignment system as claimed.

13. Claims 6, 7, 10-16, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breyen and Hahne as applied to claims 2-4 above, and further in view of Farahmandi (US 6,233,135).

Breyen and Hahne make obvious the fixture (Figure 5c) and the force member (items 213a and 213c). Hahne discloses that the fixture includes a base pad which can be forced upwards and that the side members of the fixture (Figure 1, items 2 and 3) are capable of functioning as an alignment system as claimed. Hahne also discloses an upper member capable of contacting the top surface of a capacitor stack (flaps 13 and 14) and these members are capable of moving as claimed

The references do not suggest a placement member for placing the capacitor layers into the fixture.

Farahmandi discloses a placement member (see Figure 8c, items 100, 101, and 102) for placing the capacitor layers into the fixture. The X-Y controller (i.e., a robotic controller) ensures proper positioning of the layers. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such a placement member in order to ensure proper layer positioning.

As to claim 7, Farahmandi discloses that the placement member includes an X-Y controller (i.e., a robotic controller).

As to claim 10, Breyen discloses the use of springs for forcing the capacitor layers together (items 213a and 213c, and see Figures 5a to 5c and corresponding descriptions in columns 23 to 25)

As to claim 11, see the rejection of claim 6 above.

As to claim 12, Hahne as incorporated above discloses that the force member can be used to force the base pad upwards.

As to claim 13, Breyen discloses the use of springs for forcing the capacitor layers together (items 213a and 213c, and see Figures 5a to 5c and corresponding descriptions in columns 23 to 25).

As to claims 14 and 15, in addition to the base pad (item 8), Hahne discloses an upper member capable of contacting the top surface of a capacitor stack (flaps 13 and 14) which are capable of moving.

As to claim 16, Hahne discloses side members of the fixture (Figure 1, items 2 and 3) which are capable of functioning as an alignment system as claimed.

As to claim 18, Farahmandi discloses that the placement member includes an X-Y controller (i.e., a robotic controller).

As to claim 20, the apparatus of Breyen, Hahne and Farahmandi is capable of continually applying compression force as claimed.

Allowable Subject Matter

14. Claims 5, 9 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. Claims 21-29 are allowed.

Response to Arguments

16. Applicant's arguments filed 3/8/2005 have been fully considered but they are not persuasive.

17. In response to applicant's argument that some of the references (such as Hahne) do not stack the capacitor layers, or that some of the references do not teach continual compression (Breyen and Hahne), a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). In this case, Breyen is capable of being used to provide continual compression, and Hahne is capable of continual compression.

18. In any event, new reference NN81024261 has been applied in new rejections which address the continual compression issue. NN81024261 is structurally identical to the limitations as worded in the apparatus claims and thus is capable of meeting the intended usage. Furthermore, it should be noted that NN81024261 is in the same technical field as the invention - the manufacture of electrical components. Beyond that, NN81024261 has many similarities, such as that the devices are layered, and manufactured with stacking and compression.

19. Furthermore, with regard to applicant's arguments as to the Farahmandi reference, applicant's arguments are unpersuasive. Applicant correctly points that placement member is an X-Y sprayer, but ignores that the sprayed layers are then placed into a stack to form the capacitor layers. While Farahmandi's disclosure may be radically different than applicant's disclosure, Farahmandi is interpreted as reading on applicant's claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (571) 272-1230 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-866-377-8642 and giving the operator the above TDD number. The examiner can normally be reached on M-Th 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

George R. Koch III
Patent Examiner
Art Unit 1734

GRK
5/28/2005